



I. International Apitherapy and Nature Congress



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FULL TEXT PAPERS



Digger Wasps of The Tribe Larrini (Crabronidae: Crabroninae) of The Nakhchivan Autonomous Republic

Naxçıvan Muxtar Respublikasının Larrini (Crabronidae: Crabroninae) Tribasının Arıları

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Abstract

Based on literary and Internet sources, the article presents information on the registration of species belonging to the tribe *Larrini* in the world, the Palearctic and neighboring countries. The studies were carried out on the basis of materials collected from a number of territories of the autonomous republic in 2018-2019 and stored in the funds of the Biodiversity Research Center of the Far Eastern Branch of the Russian Academy of Sciences, the Institute of Zoology and the Institute of Bioresources (Nakhchivan) of the Ministry of Science and Education of the Republic of Azerbaijan. During the years of research, 36 species of burrowing wasps belonging to 6 genera of the tribe *Larrini* were found in 27 points of 23 villages in 6 regions of the autonomous republic. The distribution of species in the world, the altitudinal zones and landscapes inhabited by them have been established. It has been observed that most species prefer the flowers of plants belonging to the Euphorbiaceae and Fabaceae families. Compared with other species of *Prosopigastra creon* (Nurse, 1903); *Tachysphex brullii* (F. Smith, 1856); *Tachysphex costae* (De Stefani Perez, 1882); *Tachysphex laticauda* Gussakovskij, 1933; *Tachysphex nitidissimus* de Beaumont, 1952; *Tachysphex persa* Gussakovskij, 1933; *Tachytes matronalis* Dahlbom, 1845 rare species.

Keywords: Nakhchivan, *Larra*, *Liris*, *Gastrosericus*, *Prosopigastra*, *Tachysphex*, *Tachytes*.

Xülasə

Məqalədə *Larrini* tribasına mənsub növlərin dünyada, Palearktikada və qonşu ölkələrdə qeyd olunması haqqında ədəbiyyat və internet mənbələrinə əsasən məlumatlar verilir. Tədqiqat işi 2018-2019-cu illərdə muxtar respublikanın bir sıra ərazilərindən toplanılmış, Rusiya Elmlər Akademiyasının Uzaq Şərq Bölməsi Biomüxtəliflik Elmi Tədqiqat Mərkəzinin, Azərbaycan Respublikası Elm və Təhsil Nazirliyinin Zoologiya İnstitutunun və Bioresurslar İnstitutunun (Naxçıvan) kolleksiya fondunda saxlanılan materialların əsasında yerinə yetirilmişdir. Tədqiqat illərində muxtar respublikanın 6 rayonunun 23 kəndinin 27 nöqtəsində *Larrini* tribasının 6 cinsə



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mənsub 36 növünün yayıldığı aşkar edilmişdir. Növlərin dünyada yayılması, tapıldığı yüksəklik zonaları və landşaftlar müəyyən edilmişdir. Əksər növlərin südləyənkimilər və paxlalılar fəsilələrinə mənsub bitkilərin çiçəklərinə üstünlük verdiyi müşahidə edilmişdir. *Prosopigastra creon* (Nurse, 1903); *Tachysphex brullii* (F. Smith, 1856); *Tachysphex costae* (De Stefani Perez, 1882); *Tachysphex laticauda* Gussakovskij, 1933; *Tachysphex nitidissimus* de Beaumont, 1952; *Tachysphex persa* Gussakovskij, 1933; *Tachytes matronalis* Dahlbom, 1845 digər növlərə nisbətən azsaylı növlər olmuşdur.

Açar sözlər: Naxçıvan, *Larra*, *Liris*, *Gastrosericus*, *Prosopigastra*, *Tachysphex*, *Tachytes*.

1. INTRODUCTION

According to the latest data, 15 genera and 1346 species of the *Larrini* tribe have been identified in the world fauna (Pulawski, 2022). 227 species belonging to 8 genera in the Palearctic, 62 species belonging to 8 genera of tribes in Russia from countries neighboring our republic (Antropov et al., 2017), 80 species belonging to 6 genera in Turkey (Yıldırım et al., 2014), and 24 species belonging to 8 genera in Iran (Jahantigh et al., 2017).

In general, the wasps belonging to the *Larrini* tribe of our republic and the Nakhchivan Autonomous Republic, which is an inseparable part of it, have been very superficially studied by both local and foreign authors until our research, despite having a rich species diversity.

Thus, in 1933, V.V. Gussakovskij described the species *Prosopigastra punctatissima* during the identification of samples collected from Sheki (Gussakovskij, 1933). In 1979, V.J. Pulawski identified *Prosopigastra punctatissima* species *Prosopigastra orientalis* de Beaumont, 1947, collected from Sheki and Goygol surroundings during the review of *Prosopigastra* genus (Pulawski, 1979).

Samples of *Tachysphex brullii* (F. Smith, 1856); *Tachysphex consocius* Kohl, 1892; *Tachysphex costae* (De Stefani Perez, 1882); *Tachysphex dignus* Kohl, 1889; *Tachysphex erythropus* (Spinola, 1839); *Tachysphex fugax* (Radoszkowski, 1877); *Tachysphex fulvitaris* (A. Costa, 1867); *Tachysphex helveticus* Kohl, 1885; *Tachysphex incertus* (Radoszkowski, 1877); *Tachysphex laticauda* Gussakovskij, 1933; *Tachysphex mediterraneus* Kohl, 1883; *Tachysphex mocsaryi* Kohl, 1884; *Tachysphex nitidior* de Beaumont, 1940; *Tachysphex obscuripennis* (Schenck, 1857); *Tachysphex panzeri* (Vander Linden, 1829); *Tachysphex pompiliformis* (Panzer, 1804); *Tachysphex psammobius* (Kohl, 1880); *Tachysphex sordidus* (Dahlbom, 1845); *Tachysphex tarsinus* (Lepeletier de Saint Fargeau, 1845); *Tachytes argenteus* Gussakovskij, 1933; *Tachytes matronalis* Dahlbom, 1845; *Tachytes obsoletus* (Rossi, 1792);



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Tachytes panzeri (Dufour, 1841) collected from Ordubad, Shahbuz, Sharur, Shamkir, Shishtepe, Ganja, Mingechevir, Goygol, Sheki, Gusar, Guba, Lerik, Astara, Lankaran, Yardimli, Balakan, Mardakan, Buzovna and Lokbatan regions taken and recorded. (Pulawski, 1962, 1971, 1973, 1978, 1979, 2007; Maharramov et al., 2018).

Thus, until our latest research, 24 species belonging to this tribe were recorded from Azerbaijan. In the faunistic list of Crabronidae of the Nakhchivan Autonomous Republic, 36 species of the *Larrini* tribe belonging to 6 genera were found, of which 12 species were shown for the first time for the fauna of Azerbaijan (Makrousov et al., 2019).

2. MATERIALS and METHODS

The research work was carried out in 2018-2019 from 31 points in 19 villages of 6 regions of the autonomous republic. M.M. Maharramov, A.B. Bayramov, M.Yu. Proshchalykin and X.A. Aliyev collected with entomological nets and Merike traps, it was carried out on the basis of materials stored in the collection fund of the Far East Department of the Biodiversity Science Center of the Russian Academy of Sciences, the Institute Zoology and the Institute of Bioresources (Nakhchivan) of the Ministry of Science and Education of the Republic of Azerbaijan.

The classification of species and their distribution in the world are given according to literature and internet information (Antropov et al., 2017; Pulawski, 2022).

3. RESULTS and DISCUSSION

During the research years, it was found that 36 species of the *Larrini* tribe belonging to 6 genera were distributed in 27 points of 23 villages of 6 regions of the autonomous republic.

Family: *Crabronidae* Latreille, 1802

Subfamily: *Crabroninae* Latreille, 1802

Tribe: *Larrini* Latreille, 1802

Larra anathema (Rossi, 1790)

Material: Julfa, Gulistan, 38°58'N 45°36'E, 740 m., 26.VII.2018, 1 ♂; Julfa, Milakh, 39°15'N 45°43'E, 1430 m., 27.VII.2018, 1 ♀, 1 ♂; Babek, Shikhmahmud, 39°15'N 45°25'E, 940 m., 30.VII.2018, 1 ♂.



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Distribution: Europe, Russia, North Africa, Georgia, Azerbaijan, Turkey, Syria, Iraq, Iran, Saudi Arabia, Bahrain, Israel, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, China (Antropov et al., 2017; Pulawski, 2022).

Notes: Found in lowland semi-desert and middle-mountain mountain-xerophyte landscapes. It is caught on the flowers of plants of the genus *Astragalus*.

Gastrosericus waltlii Spinola, 1839

Material: Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 30.VII.2018, 1 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 24–25.VII.2018, 1 ♀; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 18.VI.2019, 3 ♂; Babek, Shikhmahmud, 39°15'N 45°25'E, 940 m., 14.VI.2019, 1 ♀; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Cyprus, Syria, Jordan, Israel, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen, Iraq, Iran, Pakistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, China, India (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland semi-desert, low and middle-mountain mountain-xerophytic landscapes. It is found on the flowers of *Euphorbia* and *Daucus carota*.

Liris niger (Fabricius, 1775)

Material: Julfa, Goydara, 39°09'N 45°40'E, 1150 m., 26.VII.2018, 1 ♀; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 26–27.VII.2018, 1 ♂; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 21.VI.2019, 1 ♀; Babek, Yukhari Buzgov, 39°31'N 45°22'E, 1720 m., 11.VI.2019, 1 ♀; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 15.VI.2019, 1 ♀; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♀; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 20.VI.2019, 2 ♀; Shahbuz, Gomur, 39°27'N 45°44'E, 1790 m., 18.VI.2019, 1 ♀; Shahbuz, Gizil Gishlag, 39°28'N 45°35'E, 1460 m., 19.VI.2019, 1 ♀.

Distribution: Europe, Russia, North Africa, Yemen, Azerbaijan, Turkey, Jordan, Iran, Iraq, Afghanistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, Mongolia, China, India.

Notes: It is found in lowland semi-desert, low and middle-mountain mountain-xerophytic landscapes. Caught on the flowers of *Euphorbiaceae* and *Fabaceae* (Antropov et al., 2017; Pulawski, 2022).

Prosopigastra bulgarica Pulawski, 1958



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Material: Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 24–25.VII.2018, 1 ♀; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 14.VI.2019, 1 ♀, 3 ♂; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 15.VI.2019, 2 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 20.VI.2019, 1 ♀; Shahbuz, Kulus, 39°21'N 45°37'E, 1395 m., 19.VI.2019, 1 ♂; Shahbuz, Gizil Gishlag, 39°28'N 45°35'E, 1460 m., 19.VI.2019, 1 ♀.

Distribution: Russia, North Africa, Azerbaijan, United Arab Emirates, Turkmenistan, Kazakhstan, Mongolia, China (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland and low-mountain semi-desert, low-mountain and middle-mountain mountain-xerophyte landscapes. It is caught from the areas with Euphorbiaceae formations.

Prosopigastra creon (Nurse, 1903)

Material: Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 24–25.VII.2018, 1 ♂.

Distribution: North Africa, Azerbaijan, Iran, United Arab Emirates, Turkmenistan, Kazakhstan, India (Pulawski, 2022).

Notes: Found in the middle-mountain mountain-xerophyte landscape. It prefers Euphorbiaceae flowers.

Prosopigastra orientalis de Beaumont, 1947

Material: Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 22–23.VII.2018, 1 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 24–25.VII.2018, 1 ♂; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 26–27.VII.2018, 1 ♂; Shahbuz, Shahbuz city, 39°23'N 45°32'E, 1160 m., 30.VII.2018, 1 ♂; Babek, Gahab, 39°15'N 45°31'E, 1045 m., 12.VI.2019, 1 ♀; Sharur, Akhura, 39°33'N 45°13'E, 1640 m., 13.VI.2019, 2 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 14.VI.2019, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♀.

Distribution: Europe, Russia, Azerbaijan, Turkey, Israel, Tajikistan, Uzbekistan, Kazakhstan (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland and low-mountain semi-desert, low-mountain and middle-mountain mountain-xerophyte landscapes. Caught over the flowers of the Fabaceae and over the moistened soil (those that come to carry water).

Tachysphex brullii (F. Smith, 1856)

Material: Sharur, Akhura, 39°33'N 45°13'E, 1640 m., 13.VI.2019, 2 ♀.



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Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Israel, Turkmenistan, Kazakhstan.

Notes: Found in the middle-mountain mountain-xerophyte landscape. Caught over moist soil.

Tachysphex consocius Kohl, 1892

Material: Shahbuz, Batabat, 39°31'N 45°47'E, 2100 m., 24.VII.2018, 1 ♀; Babek, Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 1 ♀, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♂.

Distribution: Europe, Russia, North Africa, Abkhazia, Azerbaijan, Turkey, Syria, Iran, Afghanistan, Saudi Arabia, Oman, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, India (Antropov et al., 2017; Pulawski, 2022).

Notes: Found in lowland semi-desert, low-mountain mountain-xerophyte and middle-mountain mountain-xerophyte grassland-shrub landscapes. It prefers the flowers of Euphorbiaceae and Apiaceae.

Tachysphex costae (De Stefani Perez, 1882)

Material: Babek, Gahab, 39°15'N 45°31'E, 1045 m., 12.VI.2019, 1 ♂.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Israel, Iran, Turkmenistan, Tajikistan, Kazakhstan (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in the lowland mountain-xerophyte landscape. Caught over the flowers of Euphorbiaceae.

Tachysphex dignus Kohl, 1889

Material: Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 10.VI.2019, 1 ♀, 4 ♂; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 18.VI.2019, 1 ♀; Babek, Gahab, 39°15'N 45°31'E, 1045 m., 12.VI.2019, 1 ♂; Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 14.VI.2019, 1 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 14.VI.2019, 1 ♀; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 18.VI.2019, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♀; Shahbuz, Gizil Gishlag, 39°28'N 45°35'E, 1460 m., 19.VI.2019, 2 ♂.

Distribution: Azerbaijan, Turkey, Syria, Iran, Arabian Peninsula, Turkmenistan, Kazakhstan (Pulawski, 2022).

Notes: It is found in lowland semi-desert, low and middle-mountain mountain-xerophytic landscapes. Caught over the flowers of Euphorbiaceae, Fabaceae and Apiaceae.



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Tachysphex erythropus (Spinola, 1839)

Material: Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♀, 3 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 20.VI.2019, 1 ♀, 5 ♂.

Distribution: Europe, Russia, North Africa, Saudi Arabia, United Arab Emirates, Oman, Azerbaijan, Turkey, Israel, Iran, Pakistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, China, India, Sri Lanka (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in the lowland semi-desert landscape. Caught over the flowers of Euphorbiaceae,

Tachysphex fugax (Radoszkowski, 1877)

Material: Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 26–27.VII.2018, 1 ♂; Nakhchivan city, 39°13'N 45°24'E, 905 m., 17–18.VI.2019, 3 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Syria, Saudi Arabia, Oman, Yemen, Israel, Uzbekistan, Kazakhstan (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland semi-desert and middle-mountain mountain-xerophytic landscapes. Caught over the flowers of Euphorbiaceae and Apiaceae.

Tachysphex fulvitaris (A. Costa, 1867)

Material: Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 26–27.VII.2018, 1 ♂; Babek, Payiz, 39°26'N 45°22'E, 1225 m., 11.VI.2019, 1 ♀, 1 ♂; Sharur, Akhura, 39°33'N 45°13'E, 1640 m., 13.VI.2019, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 3 ♀; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 20.VI.2019, 1 ♀.

Distribution: Europe, Azerbaijan, Turkey, Syria, Jordan, Israel, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan (Pulawski, 2022).

Notes: It is found in lowland semi-desert, low and middle-mountain mountain-xerophytic landscapes. Caught over the flowers of Euphorbiaceae and Fabaceae.

Tachysphex graecus Kohl, 1883

Material: Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 14.VI.2019, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 2 ♂.

Distribution: Europe, Azerbaijan, Turkey, Iraq (Pulawski, 2022).

Notes: It is found in lowland and low-mountain semi-desert landscapes. Caught over the flowers of Euphorbiaceae and Apiaceae and yellow Merike traps.



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Tachysphex helveticus Kohl, 1885

Material: Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 15.VI.2019, 3 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 5 ♀; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 20.VI.2019, 1 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Jordan, Tajikistan, Kazakhstan, Mongolia (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland and low-mountain mountain-xerophyte landscapes. It prefers the flowers of Fabaceae. Caught using yellow Merike traps.

Tachysphex incertus (Radoszkowski, 1877)

Material: Ordubad, Aghdara, 39°06'N 45°54'E, 2000 m., 28.VII.2018, 2 ♂; Babek, Sirab, 39°18'N 45°31'E, 1090 m., 10.VI.2019, 1 ♀; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 4 ♀, 1 ♂.

Distribution: Europe, Russia, Azerbaijan, Turkey, Oman, Yemen, Israel, Jordan, Lebanon, Iran, Afghanistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, China (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte and middle-mountain montane-xerophyte grassland-shrub landscapes. Caught over the flowers of Euphorbiaceae and Fabaceae

Tachysphex laticauda Gussakovskij, 1933

Material: Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 22–23.VII.2018, 1 ♀.

Distribution: Azerbaijan, Iran, Turkmenistan, Tajikistan, Kazakhstan (Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte landscapes. Caught over the flowers of Euphorbiaceae and Apiaceae.

Tachysphex liriformis Pulawski, 1967

Material: Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 20.VI.2019, 1 ♀.

Distribution: Azerbaijan, Turkey, Tajikistan, Kazakhstan (Pulawski, 2022).

Notes: It is found in lowland semi-desert landscape. Caught over the flowers of Euphorbiaceae.

Tachysphex mediterraneus Kohl, 1883



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Material: Shahbuz, Ayrintj, 39°25'N 45°35'E, 1240 m., 25.VII.2018, 1 ♀; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 2 ♂; Babek, Payiz, 39°26'N 45°22'E, 1225 m., 11.VI.2019, 1 ♀; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 15.VI.2019, 2 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 1 ♀, 1 ♂.

Distribution: Europe, Russia, Azerbaijan, Turkey, Israel, Kazakhstan, India, Sri Lanka, Africa (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland semi-desert and low-mountain mountain-xerophyte landscapes. Caught over the flowers of Euphorbiaceae and Apiaceae. Many individuals were observed in yellow traps.

Tachysphex mocsaryi Kohl, 1884

Material: Babek, Sirab, 39°18'N 45°31'E, 1090 m., 10.VI.2019, 2 ♂; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 10.VI.2019, 1 ♂, 3 ♂; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 10 ♀, 2 ♂; Babek, Gahab, 39°15'N 45°31'E, 1045 m., 12.VI.2019, 2 ♀, 1 ♂; Şərur, Axura, 39°33'N 45°13'E, 1640 m., 13.VI.2019, 1 ♀; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 2 ♀.

Distribution: Russia, Europe, North Africa, Azerbaijan, Turkey, Israel, Jordan, Afghanistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland and low-mountain semi-desert, low and middle mountain mountain-xerophyte landscapes. It prefers the flowers of Euphorbiaceae and Fabaceae. They easily fall into yellow traps.

Tachysphex nitidior de Beaumont, 1940

Material: Shahbuz, Batabat, 39°31'N 45°47'E, 2100 m., 24.VII.2018, 1 ♀; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 18.VI.2019, 3 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 2 ♀, 1 ♂.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Israel, Lebanon, Iran, Turkmenistan, Uzbekistan, Kazakhstan, Mongolia (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland semi-desert, low-mountain mountain-xerophyte and middle-mountain mountain-xerophyte grassland-shrub landscapes. Caught over the flowers of Euphorbiaceae, Fabaceae and Apiaceae.

Tachysphex nitidissimus de Beaumont, 1952



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Material: Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 1 ♂.

Distribution: Europe, North Africa, Azerbaijan, Turkey, Iran, Turkmenistan, Kazakhstan, Mongolia (Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte landscape. Caught with yellow traps.

Tachysphex obscuripennis (Schenck, 1857)

Material: Babek, Goynuk, 39°18'N 45°40'E, 1680 m., 12.VI.2019, 1 ♂; Sharur, Akhura, 39°33'N 45°13'E, 1640 m., 13.VI.2019, 4 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 18.VI.2019, 2 ♀.

Distribution: Europe, Russia, Azerbaijan, Morocco, Turkey, Lebanon.

Notes: It is found in middle-mountain mountain-xerophyte landscape. Caught over the flowers of Fabaceae.

Tachysphex panzeri (Vander Linden, 1829)

Material: Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 10.VI.2019, 2 ♀; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 2 ♀, 2 ♂; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 18.VI.2019, 1 ♀; Shahbuz, Shahbuzkənd, 39°23'N 45°32'E, 1140 m., 14.VI.2018, 1 ♀, 1 ♂; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 15.VI.2019, 2 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Syria, Israel, Jordan, Saudi Arabia, Yemen, Bahrain, United Arab Emirates, Iran, Pakistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, Mongolia, India, Sri Lanka (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte landscapes. Caught over the flowers of Euphorbiaceae, Fabaceae and Apiaceae.

Tachysphex persa Gussakovskij, 1933

Material: Shahbuz, Badamli, 39°25'N 45°31'E, 1290 m., 19.VI.2019, 1 ♀.

Distribution: Azerbaijan, Turkey, Israel, Iran, Kazakhstan (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte landscape. Caught over the flowers of Euphorbiaceae.

Tachysphex pompiliformis (Panzer, 1804)



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Material: Shahbuz, Kechili, 39°20'N 45°45'E, 2300 m., 21.VII.2018, 2 ♂; Shahbuz, Bichenek, 39°31'N 45°46'E, 2000 m., 23–24.VII.2018, 1 ♂; Shahbuz, Batabat, 39°31'N 45°47'E, 2100 m., 24.VII.2018, 8 ♀, 2 ♂; Babek, Payiz, 39°26'N 45°22'E, 1225 m., 11.VI.2019, 2 ♀; Shahbuz, Badamli, 39°25'N 45°31'E, 1290 m., 19.VI.2019, 1 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Iran, Pakistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, Mongolia, China, Korean Peninsula, India, North America (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte, middle-mountain mountain-xerophyte grassland-shrub landscapes. It prefers the flowers of Fabaceae.

Tachysphex psammobius (Kohl, 1880)

Material: Babek, Payiz, 39°26'N 45°22'E, 1225 m., 11.VI.2019, 1 ♂; Ordubad, Aghdara, 39°06'N 45°54'E, 2000 m., 17.VI.2019, 1 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Israel, Kazakhstan, China, North America (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain and middle-mountain mountain-xerophyte landscape. It prefers the flowers of Fabaceae of the genus *Astragalus*.

Tachysphex sordidus (Dahlbom, 1845)

Material: Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 22–23.VII.2018, 1 ♂; Julfa, Gulustan, 38°58'N 45°36'E, 740 m., 26.VII.2018, 1 ♀; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 26–27.VII.2018, 1 ♂; Julfa, Milakh, 39°15'N 45°43'E, 1430 m., 27.VII.2018, 1 ♂; Shahbuz, Shahbuz city, 39°23'N 45°32'E, 1160 m., 30.VII.2018, 1 ♂; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 21.VI.2019, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 20.VI.2019, 5 ♂; Shahbuz, Kulus, 39°21'N 45°37'E, 1395 m., 19.VI.2019, 1 ♂.

Distribution: Europe, North Africa, Azerbaijan, Turkey, Iran, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan (Pulawski, 2022).

Notes: It is found in lowland semi-desert, low-mountain mountain-xerophyte landscapes. It prefers the flowers of Apiaceae. They easily fall into yellow traps.

Tachysphex tarsinus (Lepeletier de Saint Fargeau, 1845)

Material: Ordubad, Aghdara, 39°06'N 45°54'E, 2000 m., 17.VI.2019, 1 ♂; Shahbuz, Gizil Gishlag, 39°28'N 45°35'E, 1460 m., 19.VI.2019, 1 ♀, 1 ♂.



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Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Saudi Arabia, Oman, Israel, Lebanon, Iran, Tajikistan, Uzbekistan, Kazakhstan, China (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain and middle-mountain mountain-xerophyte landscape. It prefers the flowers of Fabaceae.

Tachysphex unicolor (Panzer, 1807-1809)

Material: Shahbuz, Kechili, 39°22'N 45°43'E, 1800 m., 22.VII.2018, 1 ♀; Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 30.VII.2018, 1 ♀; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 24–25.VII.2018, 1 ♂.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Israel, Lebanon, Afghanistan, Turkmenistan, Kazakhstan, Mongolia, China (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain and middle-mountain mountain-xerophyte grassland-shrub landscapes. It prefers the flowers of Fabaceae and Apiaceae.

Tachytes argenteus Gussakovskij, 1933

Material: Babek, Shikhmahmud, 39°15'N 45°25'E, 940 m., 14.VI.2019, 1 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 3 ♂; Julfa, Dize, 39°03'N 45°45'E, 965 m., 20.VI.2019, 2 ♂.

Distribution: Europe, Russia, Azerbaijan, Turkey, United Arab Emirates, Iran, Turkmenistan, Kazakhstan (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland semi-desert landscape. It prefers the flowers of Fabaceae. Caught with yellow traps.

Tachytes freygessneri Kohl, 1881

Material: Julfa, Gulustan, 38°58'N 45°36'E, 740 m., 26.VII.2018, 1 ♀, 3 ♂; Julfa, Gulustan, 38°58'N 45°36'E, 740 m., 16.VI.2019, 2 ♂; Julfa, Daridagh, 38°59'N 45°40'E, 900 m., 16–17.VI.2019, 2 ♂.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Iraq, Iran, Tajikistan, Uzbekistan, Kazakhstan, China (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland semi-desert landscape. It prefers the flowers of Euphorbiaceae and Fabaceae.

Tachytes levantinus Pulawski, 1962



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Material: Babek, Sirab, 39°18'N 45°31'E, 1090 m., 10.VI.2019, 1 ♀, 1 ♂; Babek, Gahab, 39°15'N 45°31'E, 1045 m., 12.VI.2019, 1 ♂.

Distribution: Azerbaijan, Turkey, Iran, Afghanistan, Turkmenistan, Kazakhstan (Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte landscape. Caught over the flowers of Euphorbiaceae.

Tachytes matronalis Dahlbom, 1845

Material: Kengerli, Garabaghlar, 39°25'N 45°13'E, 1270 m., 13.VI.2019, 1 ♂.

Distribution: Europe, North Africa, Azerbaijan, Turkey, Iran, Kazakhstan, China (Pulawski, 2022).

Notes: It is found in low-mountain mountain-xerophyte landscape. The formations of Euphorbiaceae are caught from spreading areas.

Tachytes obsoletus (Rossi, 1792)

Material: Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 4 ♂; Babek, Payiz, 39°26'N 45°22'E, 1225 m., 11.VI.2019, 2 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 14.VI.2019, 2 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 18.VI.2019, 1 ♂; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 15.VI.2019, 1 ♂; Shahbuz, Kulus, 39°21'N 45°37'E, 1395 m., 19.VI.2019, 1 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Israel, Iraq, Tajikistan, Uzbekistan, Kazakhstan, China (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in low-mountain and middle-mountain mountain-xerophyte landscape. It is found mostly on the flowers of Euphorbiaceae.

Tachytes panzeri (Dufour, 1841)

Material: Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 26–27.VII.2018, 1 ♂; Ordubad, Aghdara, 39°06'N 45°54'E, 2000 m., 28.VII.2018, 2 ♂; Babek, 3 km southeast of Sirab, 39°18'N 45°32'E, 1250 m., 12.VI.2019, 1 ♂; Babek, Payiz, 39°26'N 45°22'E, 1225 m., 11.VI.2019, 1 ♂; Sharur, Akhura, 39°33'N 45°13'E, 1640 m., 13.VI.2019, 1 ♀, 1 ♂; Shahbuz, Shahbuzkand, 39°23'N 45°32'E, 1140 m., 14.VI.2019, 1 ♀; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 14.VI.2019, 2 ♂; Shahbuz, Zarnatun, 39°31'N 45°46'E, 1550 m., 18.VI.2019, 1 ♀, 2 ♂; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m., 15.VI.2019, 3 ♂; Julfa, Gulustan, 38°58'N



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45°36'E, 740 m., 16.VI.2019, 2 ♂; Shahbuz, Gomur, 39°27'N 45°44'E, 1790 m., 18.VI.2019, 1 ♀; Julfa, Dize, 39°03'N 45°45'E, 965 m., 20.VI.2019, 1 ♀.

Distribution: Europe, Russia, North Africa, Azerbaijan, Turkey, Israel, Iran, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan (Antropov et al., 2017; Pulawski, 2022).

Notes: It is found in lowland and low-mountain semi-desert, low-mountain and middle-mountain mountain-xerophyte, middle-mountain mountain-xerophyte grassland-shrub landscapes. It is caught both on the flowers of Euphorbiaceae and Fabaceae, and with yellow traps.

4. CONCLUSION

During the research years, it was found that 36 species of the *Larrini* tribe belonging to 6 genera were distributed in 27 points of 23 villages of 6 regions of the autonomous republic. The distribution of the species in the world, the altitude zones and landscapes where they are found are determined. It has been observed that most species prefer the flowers of plants belonging to the Euphorbiaceae and Fabaceae families.

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